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VIA ELECRONIC MAIL ONLY

U.S. and State of Indiana v. City of Jeffersonville, IN Request to Amend LTCP to Reduce the Size of the Interceptor and to Add High Rate Treatment.

Dear Nigel,

I am responding to your letter dated September 22, 2017 to me. The attachment contains the answers of the City of Jeffersonville to the questions you posed in your letter. I would hope that the attachment provides EPA, IDEM, and the Department of Justice sufficient information to determine that the proposed amendments to the Long Term Control Plan ("LTCP") relieve the financial burden on the City at the same time accomplishing similar or greater environmental benefits as required under the Consent Decree and consistent with EPA's CSO Policy. In fact, we believe that such amendments would exceed such benefits insofar as the volume of overflows are concerned. We will be more than willing to elaborate on these answers or to provide additional answers and data to any other questions you might have.

At the outset, however, let me agree with and disagree with a couple of specific points. Paragraph 2 of your letter is substantially correct as the attachments hereto will show. The cost for the High Rate Treatment ("HRT") however has been increased to approximately I also believe that the LTCP was approved by EPA and IDEM on April 15, 2011 ratner than May 20, 2011.

Letter to Nigel B. Cooney, Esq. October 20, 2017 Page 2



We do disagree on two items; but I believe they are just misunderstandings. First, the City is not planning to meet a "level of phosphorus control that is an order of magnitude more stringent than what is required (0.1 mg/L as opposed to the required 1.0 mg/L)." (p.3). The attachments hereto point out that the City plans to meet the required 1.0 mg/L by using the Chemically Enhanced High Rate Clarifier (CEHRC) in dry weather. The CEHRC will also be used for wet weather flows greater than 50 MG during wet weather.

Second, the City cannot represent that the 60" interceptor sewer could be made to achieve four overflows, although by utilizing the 60" interceptor plan rather than the 84" interceptor the City will be able to increase the percentage of capture from the present system by 90.1% as distinct from only 87.7 % utilizing the 84" interceptor. This equates to a capture of an additional 3.4 million gallons of wastewater from entering the environment during the 'typical year' and over 125.3 million gallons overall. We do not believe that the antiquated reliance on the number of CSO events alone is the key to quantifying environmental benefits, particularly when such CSOs might be only one or two gallons per event. Rather the real environmental benefits are achieved by increasing the rate of capture by volume of any pollutant entering the waters of the United States.

Finally, the City agrees that it has been somewhat inconsistent in asking for financial help in meeting the requirements of the LTCP and what it is proposing. While there may have been a difference of opinion within the City, its consultants, lawyers, and staff as to the proper approach to take in addressing these concerns, there has been a complete agreement that the City needs relief from some aspects of the LTCP. We believe that the approach we recommend today, as approved by the City of Jeffersonville's Sanitary Sewer Board, will relieve the City from its impossible financial burden at the same time enhancing the environmental benefits resulting from the LTCP.

Anson M. Keller

Attachment

CC: Terence Branigan, EPA Region V <u>Branigan.Terence@epa.gov</u>
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EXECUTIVE SUMMARY

Due to the cost of constructing an 84-in Interceptor on Chestnut Street (East/West Interceptor) and a 10-ft X 8-ft box on Wall St (North/South Interceptor) which has an estimated cost of \$ Exs. Yand 7A City is proposing to reduce the size of the East/West Interceptor to a 60-in sewer and the North South Interceptor to a 72-in sewer, which has an estimated cost of \$ Exs. Y and 7A

At the same time, the City is also proposing to construct a 25 MGD Chemically Enhanced High Rate Clarifier (CEHRC) to be used for phosphorus removal of all the biologically treated effluent during periods of normal flow (<50 MGD). During precipitation events, the biological treatment system will treat the 50 MG of wet weather flow and the flow in excess of 50 MGD will be diverted to the CEHRC for chemical treatment. The CEHRC treated flow will be recombined with the fully treated 50 MG, disinfected (when required) then discharged to Mill Creek. This will reduce the volume and increase the percent capture of CSOs from the 10th Street Lift Station to Cane Run. The estimated cost of the CEHRC is \$ 600.000 and \$ 600.0000 and \$ 600.000

It is anticipated that the above can be accomplished without the need to extend the 2025 LTCP compliance deadline of June 2025.

Differences in CSO Volumes and Events

The major reason why the CSO volumes and the number of CSO events that was discussed in the May 24, 2017 letter, the September 7, 2017 meeting in Indianapolis and what is contained in the following Table is that the May 24th letter contained the results based on the more recent model simulations used the Tenth Street Lift Station pumping capacity of 50MGD. The increased capacity of the lift station increased the amount of flow being removed from the collection system which in turn decreased the amount of combined sewage being discharged from the lift station.

The main reason why the previous CSO volumes and Events had fewer Ohio River CSO events and volumes than the recently submitted estimations is the most recent model simulations had lower Ohio River CSO regulator elevations. The 2014 models, as contained in the May 24th letter, the CSOs began to discharge combined sewage when to the system surcharged to the consolidated Ohio River CSO regulator elevation of 430.8 feet. In the recent model simulations the Ohio River CSOs began to discharge when the system surcharged to the existing Spring Street CSO regulator elevation of 430.5 feet. The lower CSO regulator elevation decreased the amount of flow being backed up and stored in the upstream trunk and collector sewers which increased the number of CSO events.

Number of CSO Events versus % Capture

The 1994 CSO in II.C.4. - <u>Evaluation of Alternatives</u> states that when developing the LTCP is being developed that the Plan should consider a range of controls necessary to achieve zero overflow events per year, an average of one to three, four to seven, and eight to twelve overflow events per year. Alternatively the LTCP could evaluate controls that achieve 100% capture, 90% capture, 85% capture, 80% capture and 75% capture for treatment. The LTCP should also consider expansion of the POTW secondary and primary capacity in the CSO abatement alternative analysis.

Table 1 presents the modeling results of the proposed alternative versus the selected and approved alternative in the LTCP. While the number of events result in a slight increase, the % capture of the untreated combined sewage increases by 22% in the Ohio River, 18.8% in Cane Run and 19.9% overall.

TABLE 1 - ENVIRONMENTAL BENEFITS

Location		Per Typical Year					
		Current Conditions (No Build)	LTCP Model	% Capture	Revised Model	% Capture	% Additional Capture Revised vs LTCP
Ohio River	Events	52	2*		5		
	Volume, MG	118	5.4	95.4%	4.2	96.4%	22%
Cane Run	Events	35	3		6		
	Volume, MG	21	11.7	44.3%	9.5	54.8%	18.8%
Total	Events	52	- 3	, 	6	88.5%	
	Volume, MG	139	17.1	87.7%	13.7	90.1%	19.9%

^{*1} Event every six (6) months = 2.7 MG per CSO Event

The proposed improvements will result in a decrease of 1.2 MG of untreated combined sewage discharged to the Ohio River when compared to the Approved LTCP and it will result in a decrease of 2.2 MG of combined sewage discharged to Cane Run. This results in a total decrease of 3.4 MG to the receiving streams. This is due to the following:

- 1. The proposed plan decreases the storage volume of the interceptor but increases the pumping capacity of the Tenth Street Lift Station (TSLS) from 35 MGD to 50 MGD;
- 2. The additional storage volume has been attained in the proposed plan by maximizing the elevations of the CSO regulators along the Ohio River;
- 3. A Chemically Enhanced High Rate Clarifier has been added to the Downtown WWTP to treat for phosphorus during dry weather and will be used to treat the additional combined sewage flow from the TSLS during wet weather.

Exs. 4 and 7A

Not only does the proposed project increase the level of control, as measured by volume reduction, it also results in an economic benefit resulting in a cost effective project that the City can afford without increasing the financial burden on the Jeffersonville sewer ratepayers.

The construction of 72-in sewer for both the North/South and the East/West interceptor would also require the construction of an additional 36-in dry weather flow sewer to the velocity necessary to avoid the solids deposition in the 72-in sewer during dry weather. This project would also need a flushing mechanism constructed to "flush" the solids deposited during wet weathers events. Finally, a 72-in sewer would present operational problems such as odor control, pH control, and possible hydrogen sulfide generation resulting in sulfuric acid formation reducing the life of the 72-in interceptor.